Movement Oriented Training for Tactical Personnel

Orr, Rob Marc

NSCA
NATIONAL STRENGTH AND
CONDITIONING ASSOCIATION

everyone **stronger**
NSCA.com

Movement Orientated Training for Tactical Personnel

Dr Rob Orr

(Australia)

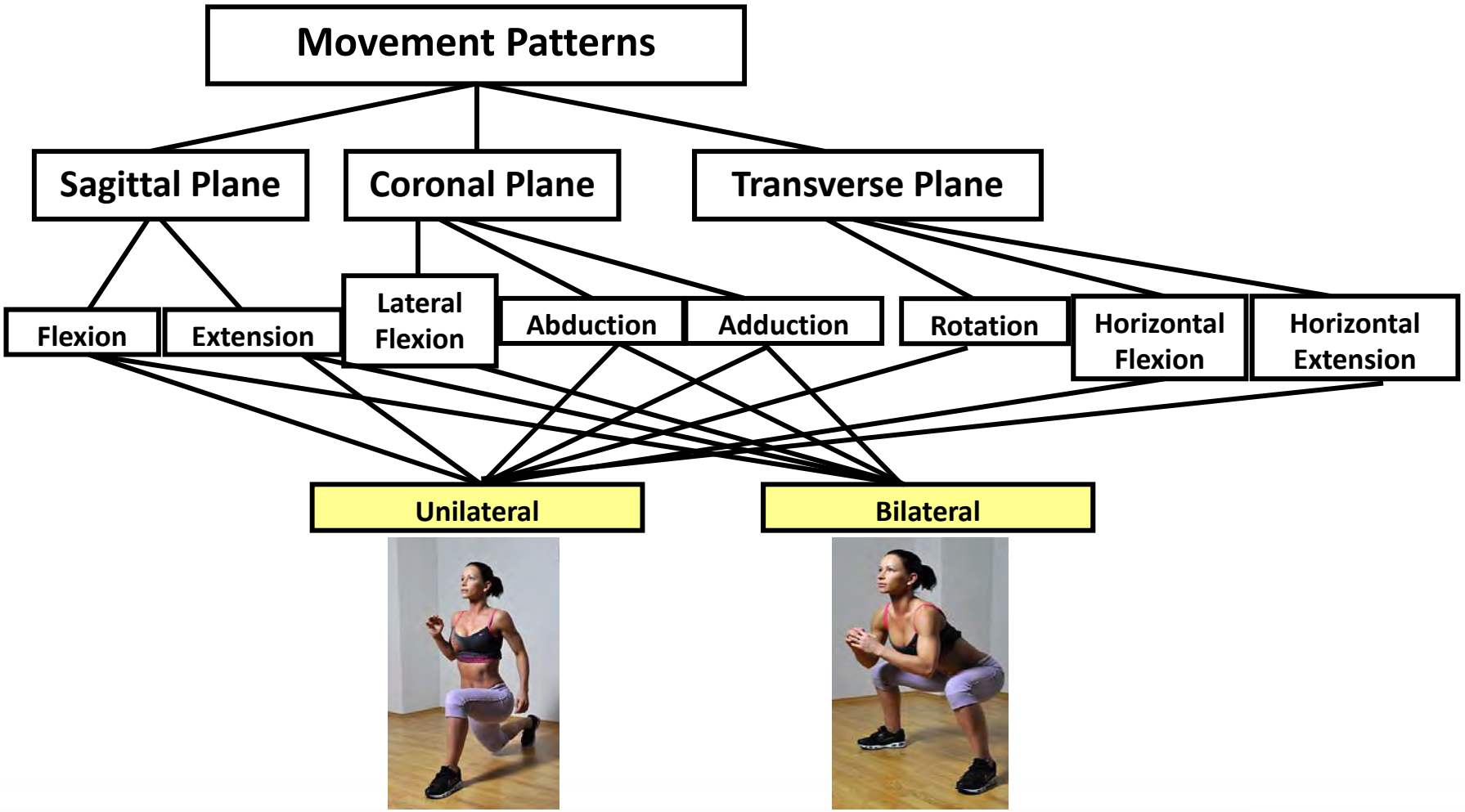
rorr@bond.edu.au

B.L.U.F

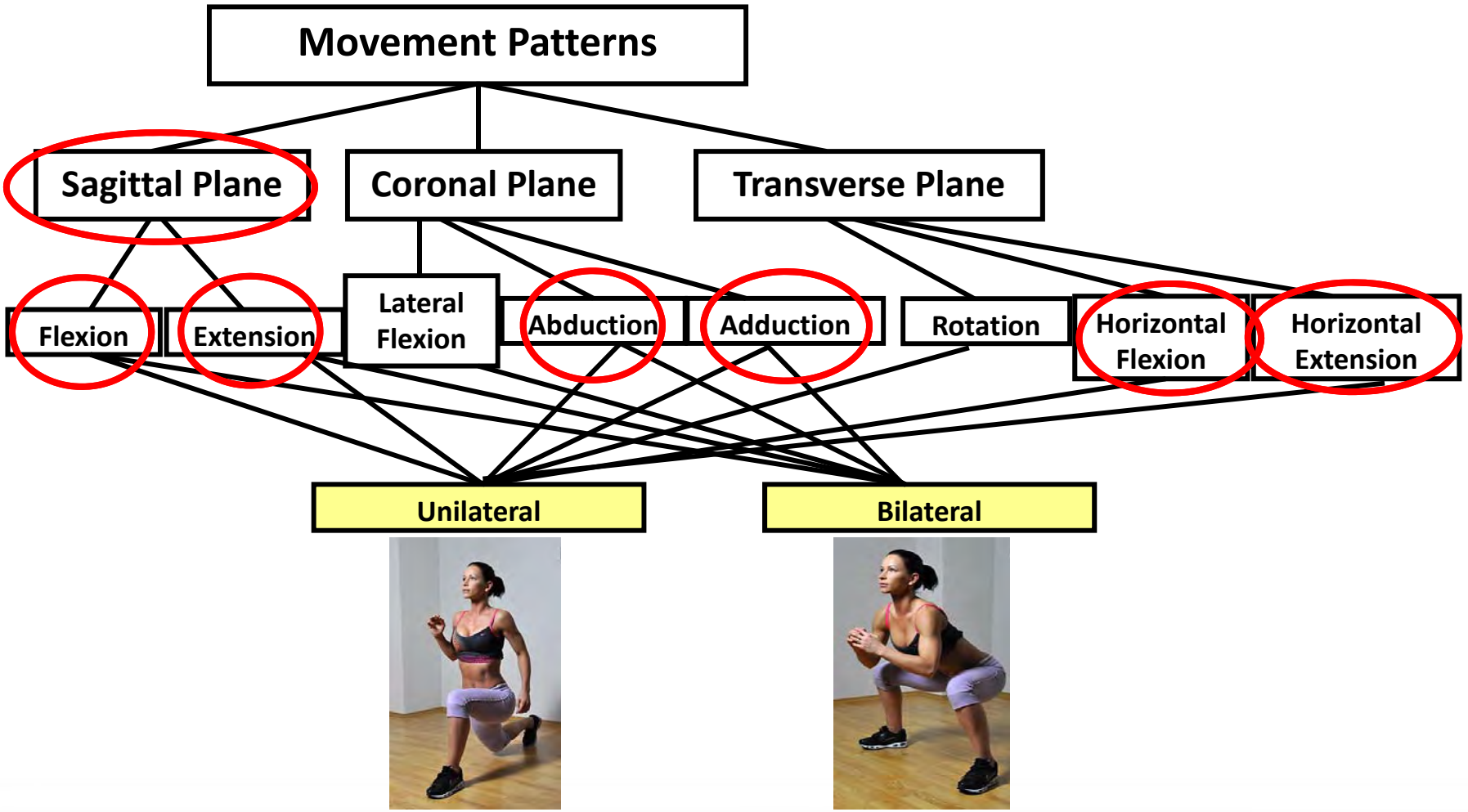
- Movement Orientated Training is a conceptual framework around which many current fitness trends are loosely (and on occasion incorrectly) based.

- MOT can be used to direct the occupational training and re-training of cyber and kinetic warriors.

Theory Review from TSAC 13

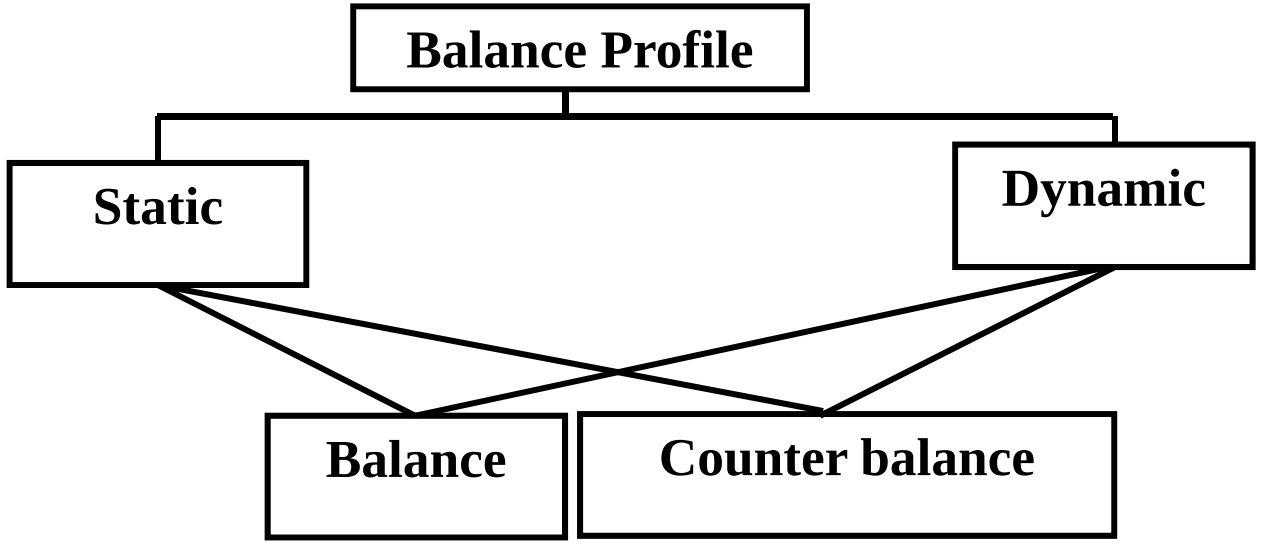


Theory Review from TSAC 13

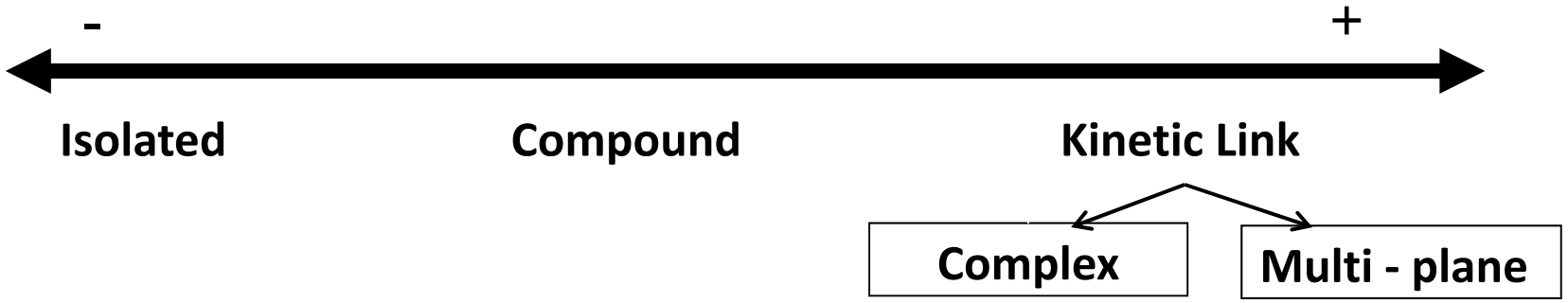


Theory Review from TSAC 13

MOT Design Influencing factors: Balance Profile



MOT Design Influencing factors: Synergy profile



Theory Review from TSAC 13

MOT Design Influencing factors: Potential for Movement

-

+

Flat Road March

Multi gradient, uneven terrain march

Theory Review from TSAC 13

MOT Design Influencing factors: Conditioning Profile

Neuromuscular Conditioning

- Strength
- Endurance
- Hypertrophy
- Power
- Speed
- Agility

Metabolic Conditioning

- Alactic
- Lactic / Glycolytic
- Oxidative

Key Movement Patterns

Parallel Lift

Split Lift

Push

Pull

Bend

Twist

Gait/Kinetic Link

Pattern 1: Parallel Lift

Squat (this is a Closed Kinetic Chain exercise)

+ knee lift (now includes Hip Open Kinetic Chain)

+ kick (now includes Hip & Knee Open Kinetic Chain)

....also requires Single Leg Stance = hip stability

.... can intro weight acceptance (drop into squat) →

+ drop (this is for weight acceptance : a key role for the Lower Limb)

+ jump & land (more advanced weight acceptance)

+ combine with other movement patterns

...rotation

...upright row/throw/shoulder press

Pattern 2: Split Lift

Lunge – static

+ movement

....rear step first as this keeps loaded limb under tension for joint stabilisation

....forward step – remember 'step, stop, down, up'

+ jump (this is for weight acceptance – direction forward, hop sideways, skater)

+ combine with other movement patterns

...rotation

...upright row/throw/shoulder press

Pattern 3: Push

Push up

+ walk (side/forward/backward - for shoulder stability + thoracic impedance: also Closed Kinetic Chain)

+ SMALL drop (this is for weight acceptance)

+ combine with other movement patterns

...rotation

...bend (tuck under)

+ rotation

...+ Pull (see One arm row and superman)

Pattern 4: Pull

....without equipment movements are predominantly Open Kinetic Chain = lifting weight of an arm rather than weight of the body…so more reps will be needed (or find some resistance like a water bottle or a partner)

One arm row (from plank or standing in Romanian Deadlift position)

+ external rotation

Superman

Combination one arm row/ER/reach (shoulder setting)

+ combine with other movement patterns

...rotation

…Push (Push Up)

Pattern 5: Bend

Sit up (full ROM) (ribs around hips – body over trunk flexion)

Tuck under (hips around ribs – body under trunk flexion)

Lateral flexion

(plank adds shoulder stability in abduction – Good for load carriage by stabilising lateral movement – esp. Gmed/Min)

Hip hinge

Single leg (ground touch - hamstring with CKC proprioception)

+ combine with other movement patterns

...Rotate pattern – Sit up with rotation

…Push pattern - Push up (when doing tuck under)

… Pull pattern - Row or Superman when doing ground touch

Pattern 6: Twist

....not often done in isolation esp around trunk = rotating on joints

Plank

....with braiding walk of legs (body under trunk rotation)

.... Reach under (body over trunk rotation)

+ combine with other movement patterns

...Bend pattern – Sit up with rotation / angled tuck unders

…Push pattern – Side plank (feet splayed) drop Push up and turn

Pattern 7: Gait/Kinetic Link

....many variations.

Running man

+ Lateral movement
+ increased stability (rear foot stays off ground)
+ Calf raise – unilateral triple extension
+ hop for weight acceptance
+ speed for power

Climber

Jog + punch (4 Jog, 4 Punch)

Pattern 7: Gait/Kinetic Link

Cable Punch / Pull

Full body complex movement session

Burpee (modified)

- single leg step back and forward for hip ROM…
- small tilt forward at bottom of squat to drop forward onto hands for weight acceptance

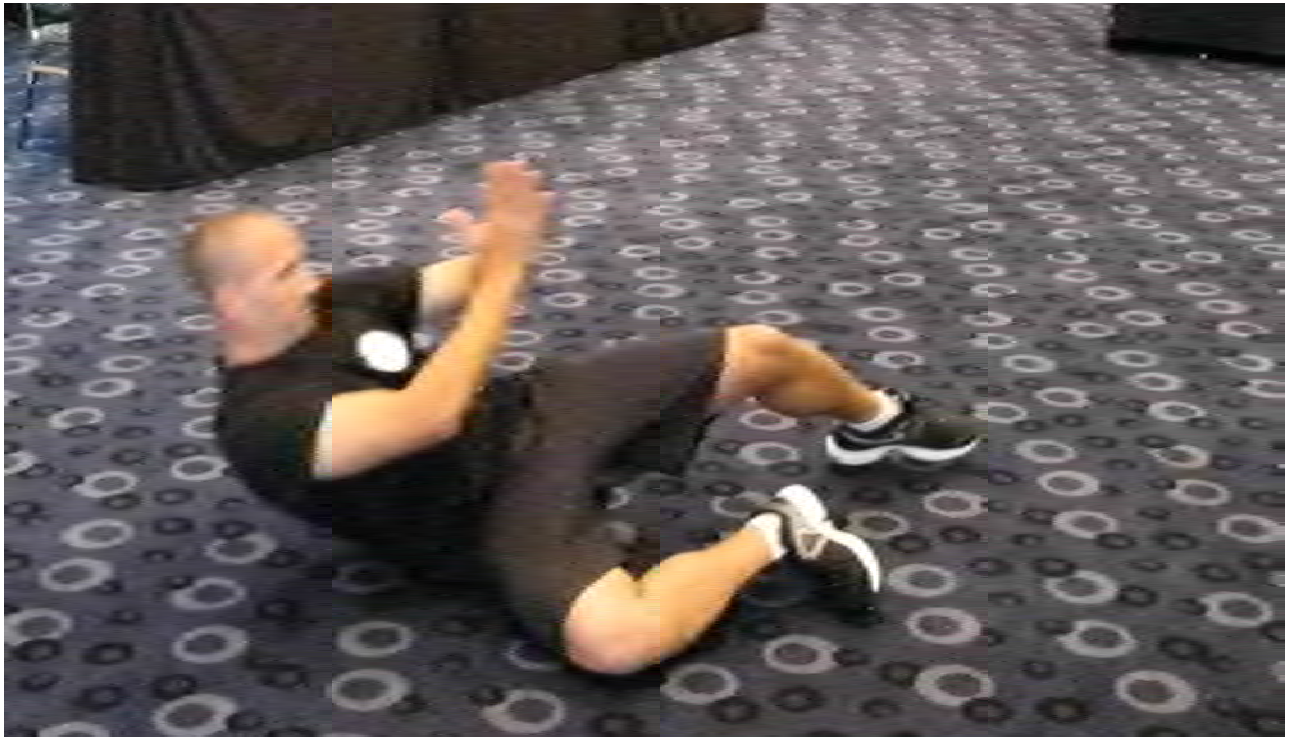
Full body complex movement session

Pommel

- Cardio with thoracic impedance
- Trunk rotation/flexion combo
- shoulder stability
- dexterity

Full body complex movement session

Stand up and sit down



Full body complex movement session

1. ***Modified Burpee***
2. ***Pommel***
3. ***Stand up and sit down (lie down)***

Session dose = 20s/20s/20s x 4 = 4 minutes

Key points

- Aim for same number of reps 1st → 4th Rotation
- Sit to stand…make it different each time (train the brain)
- Each repetition must be controlled and 'clean'

Key Points

- Which movement pattern you are trying to achieve and what are you trying to achieve with it?
- What factors will impact on that pattern (eg balance and stability)?
- What profile (Speed, endurance, metcon)?
- How can you increase the value of the exercise?

References:

See: Orr, R. (2013). Movement Orientated Training for the Kinetic and Cyber Warrior, Paper presented at the *Tactical Strength and Conditioning Conference 2013*. Norfolk, Virginia: USA.

Pictures / photographs

- Australian Army pictures from Defence Media
- Pictures in Slides 19-21 from ASCA with permission
- All other pictures are open source

Movement Orientated Training for Tactical Personnel

Dr Rob Orr

(Australia)

rorr@bond.edu.au